Claims

1. An optical recording medium: which includes a main-information area in which a metal reflection film is formed on a substrate where a row of pits is formed as main data, and a sub-information area in which medium identification information is recorded which is used to identify the optical recording medium individually by removing the metal reflection film partially and forming a plurality of reflection-film removed areas; and in which information is reproduced by irradiating the metal reflection film with a beam of light, characterized in that,

in the sub-information area, a row of pits or a groove is formed on the substrate, and the track pitch of the row of pits or the groove is 0.24 μm or wider and 0.45 μm or narrower.

2. The optical recording medium according to claim 1, characterized in that the reflectance ratio of the metal reflection film is 35% or higher and 70% or lower, with respect to a beam of light whose wavelength is 405 nm.

3. The optical recording medium according to claim 1, characterized in that the metal reflection film is made of Ag or an Ag alloy material, and the film thickness of the metal reflection film is 25nm or above and 70nm or below.

4. The optical recording medium according to claim 1, characterized in that the metal reflection film is made of Al or an Al alloy material, and the film thickness of the metal reflection film is 15nm or above and 40nm or below.

5. The optical recording medium according to claim 1, characterized in that if the wavelength of a light source of the beam of light is λ and the refractive index of a resin layer which is formed on the metal reflection film is n, the depth D of a row of pits or a groove which is formed on the substrate in the sub-information area satisfies a relational expression $\lambda/(6\times n)\leqq D\leqq\lambda/(3\times n)$.

6. The optical recording medium according to claim 1, characterized in that the depth of a row of pits which is formed on the substrate in the main-information area is equal to the depth of a row of pits or a groove which is formed on the substrate in the sub-information area.

7. The optical recording medium according to claim 1, characterized in that the track pitch of a row of pits which is formed on the substrate in the main-information area is 0.24μm or wider and 0.43μm or narrower, and the shortest pit of a row of pits which is formed on the substrate in the main-information area is 0.12μm or longer and 0.21μm or shorter.

8. The optical recording medium according to claim 1, characterized in that the track pitch of a row of pits which is formed on the substrate in the main-information area is equal to the track pitch of a row of pits or a groove which is formed on the substrate in the sub-information area.

9. The optical recording medium according to claim 8, characterized in that the track pitch of a row of pits which is formed on the substrate in the main-information area and the track pitch of a row of pits or a groove which is formed on the substrate in the sub-information area are 0.24 μm or wider and 0.43 μm or narrower.

10. The optical recording medium according to claim 1, characterized in that the optical recording medium is a multi-layer optical recording medium having a plurality of metal reflection films formed by laminating as the metal reflection film.

11. A manufacturing method for an optical recording medium, characterized by including:

a first step of preparing a substrate on which a row of pits is formed as main data in a main-information area, and a row of pits or a groove whose track pitch is 0.24 μm or wider and 0.45 μm or narrower is formed in a sub-information area;

a second step of forming a metal reflection film on the substrate;

a third step of forming a resin layer on the metal reflection film; and

a fourth step of recording medium identification information which is used to identify the optical recording medium individually by partially removing the metal reflection film in the sub-information area and forming a plurality of reflection-film removed areas.

12. The manufacturing method for an optical recording medium according to claim 11, characterized in that the second step has a step of forming a metal reflection film which has a reflectance ratio of 35% or higher and 70% or lower with respect to a beam of light whose wavelength is 405nm.

13. The manufacturing method for an optical recording medium according to claim 11, characterized in that the second step has a step of forming a metal reflection film which is made of Ag or an Ag alloy material, so that the film thickness thereof is 25nm or above and 70nm or below.

14. The manufacturing method for an optical recording medium according to claim 11, characterized in that the second step has a step of forming a metal reflection film which is made of Al or an Al alloy material , so that the film

thickness thereof is 15nm or above and 40nm or below.

15. The manufacturing method for an optical recording medium according to claim 11, characterized in that the first step has a step of forming a row of pits or a groove on the substrate in the sub-information area, so that if the wavelength of a light source of the beam of light is λ and the refractive index of the resin layer which is formed on the metal reflection film is n, the depth D of the row of pits or the groove formed on the substrate in the sub-information area satisfies a relational expression $\lambda/(6\times n)\leqq D\leqq\lambda/(3\times n)$.

16. The manufacturing method for an optical recording medium according to claim 11, characterized in that the first step has a step of forming a row of pits on the substrate in the main-information area and forming a row of pits or a groove on the substrate in the sub-information area, so that the depth of the row of pits formed on the substrate in the main-information area is equal to the depth of the row of pits or the groove formed on the substrate in the sub-information area.

17. The manufacturing method for an optical recording medium according to claim 11, characterized in that the first step has a step of forming a row of pits on the substrate in the main-information area, so that the track pitch of

the row of pits formed on the substrate in the main-information area is 0.24 μm or wider and 0.43 μm or narrower, and the shortest pit of the row of pits formed on the substrate in the main-information area is 0.12 μm or longer and 0.21 μm or shorter.

18. The manufacturing method for an optical recording medium according to claim 11, characterized in that the first step has a step of forming a row of pits on the substrate in the main-information area and forming a row of pits or a groove on the substrate in the sub-information area, so that the track pitch of the row of pits formed on the substrate in the main-information area is equal to the track pitch of the row of pits or the groove formed on the substrate in the sub-information area.

19. The manufacturing method for an optical recording medium according to claim 11, characterized in that the first step has a step of simultaneously forming a row of pits in the main-information area and a row of pits or a groove in the sub-information area.

20. A reproducing method for an optical recording medium, characterized in that: the optical recording medium includes a main-information area in which a metal reflection film is formed on a substrate where a row of pits is formed as

main data, and a sub-information area in which a row of pits or a groove whose track pitch is 0.24 μm or wider and 0.45 μm or narrower is formed on the substrate, and medium identification information is recorded which is used to identify the optical recording medium individually by removing the metal reflection film partially and forming a plurality of reflection-film removed areas; and information is reproduced by irradiating the metal reflection film of the optical recording medium with a beam of light.